



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/500,793

01/31/2005

Robert James Eldridge

56-04

7006

23713

7590

07/02/2008

GREENLEE WINNER AND SULLIVAN P C

4875 PEARL EAST CIRCLE

SUITE 200

BOULDER, CO 80301

EXAMINER

PEZZUTO, HELEN LEE

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

07/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/500,793	Applicant(s) ELDRIDGE ET AL.	
	Examiner Helen L. Pezzuto	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 19-37 is/are pending in the application.
- 4a) Of the above claim(s) 1 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1 and 19-37 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/23/08 has been entered.

Information Disclosure Statement

Applicants are requested to list the published U.S. Pre-Grant Publications corresponding to the U.S. pending applications listed in the IDS filed on 6/23/06. The issue is not whether the office has access to these pending applications in its data base. The issue lies in whether these applications are readily available for viewing to the public. Furthermore, it is noted that 1190863 is neither a U.S. patent nor a U.S. pending application.

Election/Restrictions

Claim 1 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there

Art Unit: 1796

being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 6/4/07.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 19-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rembaum et al. (US-396) or Weiss et al. (US-373) or Ballard et al. (US-489).

US 4,123,396 to Rembaum et al. discloses amine containing polymeric microspheres impregnated with magnetically attractive metallic particles (see abstract; col. 2, lines 50-54). Suitable amine containing polymers include those derived from vinylpyridine, vinylbenzimidazole and ethylene imine, which may further copolymerized with other amino group-containing monomers such as dimethylaminomethacrylate, aminoalkyl

Art Unit: 1796

(meth)acrylates, and polyunsaturated crosslinking comonomers such as N,N-methylene-bis-acrylamide (col. 3, line 31 to col. 4, line 33). The control of desirable stoichiometric amount of metal to amine functionality is taught to enhance desirable catalytic activity of the resultant microspheres (col. 3, lines 8-11). Prior art further teaches the incorporation of stabilizing agent to the aqueous polymerization system, functioning within the scope of the instant dispersing agent, taken the broadest interpretation of the recited dispersing agent (col. 4, lines 34-45).

US 4,144,373 to Weiss et al. sets forth composite adsorbent beads comprising adsorbent particles and magnetic particles embedded in a porous matrix of organic polymers (see abstract; col. 2, lines 9-53). Suitable organic polymers and magnetic particles include poly(meth)acrylamides and magnetite, respectively (col. 2, lines 20-35; col. 5, Example 1). Prior art further suggest pre-coating the magnetic particles using suitable organic polymer materials via conventional techniques (col. 2, line 36 to col. 3, line 8) so as to minimize corrosion of the particles. Taken the broadest interpretation of the recited dispersing agent, prior art particle surface treating

Art Unit: 1796

polymer and other surface active agents fall within the scope of the instant dispersing agent. Additional solvents and surfactant are suggested to produce the resultant bead dispersion (col. 4, lines 10-18).

US 6,171,489 to Ballard et al. disclose and exemplify polymer beads and method for their preparation. Prior art polymer beads products are identical to those presently claimed and prepared by the identical dispersion polymerization process as used by applicant (see abstract; col. 7, lines 11-30; working Examples). Specifically, said dispersion contains a continuous aqueous phase, an organic dispersed phase containing a functional monomer and a crosslinking monomer, magnetic particles (i.e. $\gamma\text{-Fe}_2\text{O}_3$), solid dispersing agent is used in the formation of polymer beads (col. 2, lines 50-61; col. 3, lines 25-64; col. 5, lines 1-29). Suitable crosslinking monomer, functional monomers include the presently recited amine group-containing monomers and those which can be post-reacted to form the amine functionality (col. 4, lines 5-15) are disclosed. The resultant polymer beads may be optionally treated to confer ion exchange property (col. 6, lines 46-49). Furthermore, backbone monomer, porogen, and stabilizing agent were taught within the scope of the

Art Unit: 1796

present claims(col. 4, lines 16-45; col. 5, lines 22-29, 50-67). Prior art further discloses and exemplifies hydrolysis of poly(ethyl acrylate) beads to form a weak acid cation ion exchange resin suitable for separating transition metal ions as contemplated by applicants (col. 6, lines 51-63; col. 10, Example 2). Accordingly, the instant invention is anticipated in view of prior art disclosure.

Accordingly, it would have been obvious to one having ordinary skill in the art to formulate the composite amine groups-containing polymeric beads as taught, motivated by the reasonable expectation of success. The intended function of being capable of complexing a transition metal cation would be inherent in prior art products because of the presence of the amine functionality in the polymeric bead products. Once the amine functionality is provided, it would necessarily perform the same function.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by

Art Unit: 1796

a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 19-21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-4, and 6 of U.S. Patent No. 6,171,489. Although the conflicting claims are not identical, they are not patentably

distinct from each other because the instant polymeric beads of complexing resin encompass the polymeric beads of macroporous beads expressed in the claims of US-489.

Response to Arguments

Applicant's remarks filed 5/23/08 have been fully considered but they are not persuasive. The essence of said argument is directed to US-489 does not disclose producing polymeric beads in a form suitable for use as a complexing resin as expressed in the preamble of the present claims because prior polymeric beads are primarily used as ion exchange resin. The examiner disagrees. Counsel is cordially directed to col. 6, lines 46-49, wherein patentees suggest the optional after treatment of the polymer beads to obtain ion exchange functionality. Thus, prior art is not only limited to its embodiment of ion exchange resins, but is applied to a broader coverage of polymeric beads (i.e. polymeric macroporous beads) embedded with magnetic particles, as recited in claim 1. Accordingly, the examiner's position is maintained.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen L.

Pezzuto whose telephone number is (571) 272-1108. The examiner can normally be reached on 8 AM to 4 PM, Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helen L. Pezzuto/
Primary Examiner
Art Unit 1796

hlp